What is claimed is:

1. A process for converting a carbon dioxide-containing feed into oxygenates, said process comprising the steps of:

(a) contacting said carbon dioxide-containing feed with a catalyst composition comprising copper, zinc, aluminum, gallium, and a solid acid in a reaction zone under reaction conditions sufficient to convert at least a portion of said carbon dioxide-containing feed into oxygenates; and

(b) recovering at least a portion of said oxygenates from said reaction zone.

2. A process according to claim 1,
said carbon dioxide-containing feed further comprising hydrogen.

3. A process according to claim 2,
said carbon dioxide-containing feed comprising said hydrogen and said carbon dioxide in amounts such that the volume ratio of said hydrogen to said carbon dioxide of said feed is in the range of from about 0.1:1 to about 100:1.

4. A process according to claim 3,
said carbon dioxide-containing feed comprising said carbon dioxide in an amount in the range of from about 1 to about 50 volume percent by volume of the total carbon dioxide-containing feed.

5. A process according to claim 4,
said carbon dioxide-containing feed comprising said hydrogen in an amount in the range of from about 50 to about 99 volume percent by volume of the total carbon dioxide-containing feed.

6. A process according to claim 5,
said carbon dioxide-containing feed comprising compounds other than carbon dioxide and hydrogen in an amount which is less than about 20 volume percent by volume of the total carbon dioxide-containing feed

7. A process according to claim 1,
said solid acid comprising a zeolite.

8. A process according to claim 1,
said solid acid comprising ZSM-5.

9. A process according to claim 1,
said reaction conditions including a temperature of from about 50°C to about 500°C and a pressure of from about 200 psig to about 5,000 psig.

10. A process according to claim 1,
said carbon dioxide-containing feed being charged to said reaction zone at a GHSV of from about 100 to about 20,000 hr^{-1}.

11. A process according to claim 1,
said carbon dioxide-containing feed consisting essentially of carbon dioxide and hydrogen.

12. A process for converting a carbon dioxide-containing feed stream into oxygenates, said process comprising the steps of:

(a) contacting said feed stream with a catalyst composition comprising gallium in a reaction zone under reaction conditions sufficient to convert at least a portion of said feed stream into oxygenates, said feed stream comprising carbon dioxide and hydrogen in a volume ratio of about 0.1:1 to about 100:1, and said feed stream comprising less than about 20 volume percent of components other than hydrogen and carbon dioxide; and

(b) recovering at least a portion of said oxygenates from said reaction zone.

13. A process according to claim 12,
said feed stream comprising carbon dioxide and hydrogen in a volume ratio of about 1:1 to about 50:1.

14. A process according to claim 12,
said feed stream comprising carbon dioxide and hydrogen in a volume ratio of 5:1 to 15:1.

15. A process according to claim 12,
said feed stream comprising less than about 10 volume percent of components other than carbon dioxide and hydrogen.

16. A process according to claim 12,
said feed stream comprising less than 2 volume percent of components other than carbon dioxide and hydrogen.

17. A process according to claim 12,
said feed stream consisting essentially of carbon dioxide and hydrogen.

18. A process according to claim 12,
step (a) including reacting carbon dioxide with hydrogen to thereby produce said oxygenates.

19. A process according to claim 12,
said oxygenates comprising dimethyl ether.

20. A process according to claim 12,
said catalyst composition comprising a solid acid.

21. A process according to claim 20,
said catalyst composition comprising copper.

22. A process according to claim 21,
said catalyst composition comprising zinc.

23. A process according to claim 22,
said catalyst composition comprising aluminum.

24. A process for converting a carbon dioxide-containing feed into oxygenates, said process comprising the steps of:

(a) contacting said carbon dioxide-containing feed with a catalyst composition comprising gallium in a reaction zone under reaction conditions sufficient to convert at least a portion of said feed stream into a product stream comprising dimethyl ether.

(b) recovering at least a portion of said dimethyl ether from said reaction zone.

25. A process according to claim 24,

said carbon dioxide-containing feed comprising at least about 80 volume percent carbon dioxide and hydrogen,

said product stream comprising at least about 20 carbon mole percent dimethyl ether.

26. A process according to claim 25,

said product stream comprising less than about 50 carbon mole percent methanol.

27. A process according to claim 24,

said carbon dioxide containing feed comprising at least 98 volume percent carbon dioxide and hydrogen,

said product stream comprising at least 60 carbon mole percent dimethyl ether.

28. A process according to claim 27,

said product stream comprising less than 25 carbon mole percent methanol.

29. A process according to claim 24,

said carbon dioxide-containing feed consisting essentially of carbon dioxide and hydrogen.

30. A process according to claim 24,

step (a) including converting carbon dioxide into said dimethyl ether.

31. A process according to claim 24,

said catalyst composition comprising a solid acid.

32. A process according to claim 31, said catalyst composition comprising copper.

33. A process according to claim 32, said catalyst composition comprising zinc.

34. A process according to claim 33, said catalyst composition comprising aluminum.

35. A process for converting a carbon dioxide-containing feed into oxygenates, said process comprising the steps of:

(a) contacting said carbon dioxide-containing feed with a catalyst composition comprising a solid acid in a reaction zone under reaction conditions sufficient to convert at least a portion of said feed stream into oxygenates, said carbon dioxide-containing feed comprising at least 90 volume percent carbon dioxide and hydrogen; and

(b) recovering at least a portion of said oxygenates from said reaction zone.

36. A process according to claim 35, said catalyst composition comprising gallium.

37. A process according to claim 35, said carbon dioxide-containing feed comprising at least 98 volume percent carbon dioxide and hydrogen.

38. A process according to claim 37, said catalyst composition comprising gallium and copper.

39. A process according to claim 35, said carbon dioxide-containing feed consisting essentially of carbon dioxide and hydrogen.

40. A process according to claim 39, said catalyst composition comprising gallium, copper, zinc, and aluminum.

41. A process according to claim 35, said feed comprising carbon dioxide and hydrogen in a volume ratio of about 1:1 to about 50:1.

42. A process according to claim 35, said oxygenates comprising dimethyl ether.